

Proposed In-Use Stationary Diesel Agricultural Engine Requirements

**Public Workshop
Sacramento
September 20, 2006**



California Environmental Protection Agency



Air Resources Board

Background

- 2000 Diesel Risk Management Plan
- 2004 Airborne Toxic Control Measure for Stationary Compression Ignition Engines
- 2006
 - ▶ April Public Workshops - Modesto, Sacramento
 - ▶ July Public Consultation Meetings - Colusa, Durham
 - ▶ July Public Workshop - Sacramento

Today's Public Workshop

- Proposed Requirements for In-Use Stationary Diesel Agricultural (Ag.) Engines
 - ▶ Review basic requirements
 - ▶ Changes since the July 2006 workshop
 - ▶ Economic impact
- Other Proposed Amendments to the Stationary CI Engine ATCM
- Next Steps

Proposed Requirements for In-Use Stationary Diesel Agricultural Engines



Applicability

- Greater than 50 horsepower (hp) in-use stationary diesel ag. engines
- Exception: ag. wind machines
- Limited Exemption: ag. emergency standby generator set and remotely-located engines
- Expected to primarily affect ag. irrigation pump engines. 2005 Estimates:
 - ▶ 8,600 Statewide
 - ▶ diesel PM: ~570 TPY
 - ▶ NOx: ~12,000 TPY



Proposed Noncertified In-Use Stationary Diesel Ag. Engine PM Emission Limits

Non-certified (Tier 0) Engine HP	Off-Road Engine Cert. Standard	Proposed ATCM Compliance
>50 - 99	Tier 3 or Interim 4 Jan. 1, 2008	Dec. 31, 2011
100 -174	Tier 3 Jan. 1, 2007	Dec. 31, 2010
175 - 750	Tier 3 Jan. 1, 2006	Dec. 31, 2010
>750	Tier 4 Jan. 1, 2011	Dec. 31, 2014 ₆

Proposed T1,T2-Certified In-Use Stationary Diesel Ag. Engine PM Emission Limits

Tier 1 or Tier 2 Certified Engine HP	Off-Road Engine Cert. Standard	Proposed ATCM Compliance
>50 - 174	Tier 4 Jan. 1, 2012	Dec. 31, 2015*
≥175	Tier 4 Jan. 1, 2011	Dec. 31, 2014*

New Provision: District Registration Requirements

- Registration Information – New and In-Use
 - ▶ Owner/Operator contact information
 - ▶ Engine make, model, serial number, size
 - ▶ General description of engine location
 - ▶ Estimated engine operating hours and fuel use (if non-diesel fuel is used)
 - ▶ Location of residential area, school, or hospital if within one-quarter mile (1,320 feet) of engine



New Provision: District Registration Requirements (cont.)

- **Information Submittal to District**
 - ▶ In-Use – By March 1, 2008
 - ▶ New – Within 90 days of initial installation
- **District Cost Recovery Through Fees**
- **Alternatives to Registration Programs Must Be Approved By ARB**



New Provision: Residual Risk Provision

- For engines close to residential areas, schools, or hospitals:
 - ▶ Information from registration submittals will be used to determine if replacing Tier 0 with Tier 3 engines would result in exceeding District AB 2588 Hot Spots Program thresholds for significant risk
 - ▶ On a site-specific basis, a district may extend compliance with Tier 0 engine emission requirements up to 3 years, provided the engine is replaced with an electric motor or Tier 4 engine

New Provision: Compliance Extension to Ensure Engine Availability

- ARB's Executive Officer may extend an in-use ag. engine emission limit compliance date for insufficient new engine package availability
 - ▶ Up to one year
 - ▶ Verifiable lack of availability

New Provision: Remotely-Located Ag. Engine Exemption

- **Exemption from Emission Limits for Engines:**
 - ▶ Located in federal attainment area for particulate matter (PM) and ozone
 - ▶ More than one-half mile from nearest receptor
 - ▶ If Tier 0 or Tier 1, operated no more than 200 hours/year
 - ▶ If Tier 2 or Tier 3, operated no more than 600 hours/year

New Provision: Exempted Ag. Engine Requirements

- Applies to ag. emergency standby generators and remotely-located ag. engines
 - ▶ Must be equipped with hour meters
 - ▶ Must be registered with local air district
 - ▶ Owners or operators must record operating hours and make records available to district
 - ▶ If exemption is lost, must comply with ATCM requirements no later than compliance date or 18 months after loss of exemption, whichever is later.

Revised New Engine Definition

- Allows an in-use ag. engine to be relocated without triggering new stationary diesel ag. engine emission limits, provided:
 - ▶ There is no change in the owner or operator, and
 - ▶ The relocation is to a site where an engine has previously been located

Economic Impact Analysis

Economic Analysis Overview

- **Costs to Growers**
 - ▶ **Engine Early Replacement Cost**
 - **Per Engine: \$6,900 to \$26,800**
 - ▶ **Local Air District Registration Fees (per engine)**
 - **Initial Fee Range: \$145 to \$190**
(includes \$100 per engine allowance for paperwork)
 - **Annual Fee Range: \$75 to \$242**

Economic Analysis Overview (cont'd)

- **Summary of Costs to Affected Businesses**
 - ▶ **Total Cost: \$34 Million to \$42 Million Over a 22-Year Period**
 - ▶ **Cost-Effectiveness for DPM of \$1 to \$22 per pound (\$11 per pound average)**

Further Information – Proposed Ag. Engine Requirements

- Webpage: <http://www.arb.ca.gov/diesel/ag/inuseag.htm>
- List Serve: <http://www.arb.ca.gov/listserv/inuseag.htm>
- Richard Boyd, Manager, Process Evaluation Section, (916) 322-8285 or rboyd@arb.ca.gov; or
- Barbara Cook, (916) 323-0440 or bcook@arb.ca.gov



Other Proposed Amendments

Proposed Amendments

- Intended to resolve specific implementation issues
- Address other comments raised

Overview of Proposed Amendments

- Amend definition of a Rolling Blackout Reduction Program (RBRP).
- Change fuel reporting requirements for E/S engines.
- Change the definition of M&T.
- Provide sell through provision.
- Clarify 0.01 g/bhp-hr PM standard.
- Clarify launch tracking provisions.
- Test engine exemption.
- Other non-substantive changes.

Changes to Fuel Definitions

- Propose amendments to certain fuel definitions.
 - ▶ Modify alternative diesel fuel definition to exclude biodiesel blends that meet CARB diesel fuel requirements.
 - ▶ Redefine CARB diesel fuel to be consistent with the existing CARB diesel fuel regulations.

Changes to Fuel Provisions

- Allow use of:
 - ▶ Biodiesel;
 - ▶ Biodiesel blends;
 - ▶ Fischer-Tropsch diesel; and
 - ▶ Emulsified diesel.
- Verification not required.
- Provisions for other alternative diesel fuels unchanged.

Potential Change to DRP for Engines

- CPUC order directs utilities to evaluate use of ISCs to reduce electrical demand.
 - ▶ Currently only SDG&E participates.

Potential Change to DRP for Engines (continued)

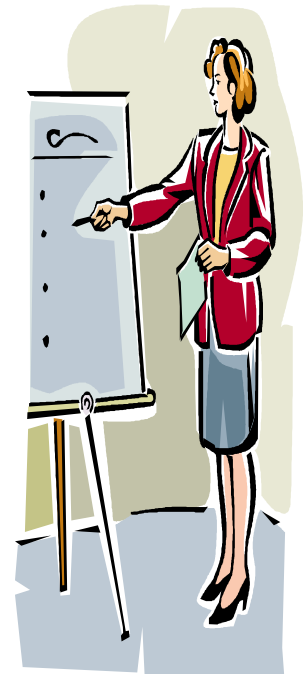
- ATCM currently provides up to 150 hours of operation for DRP engines enrolled in ISC.
 - ▶ Staff evaluating if additional hours are needed
 - ▶ Initial concepts:
 - Additional hours at EO discretion.
 - Plan would need to be approved by ARB.
 - Cleanest engines would need to be used first.

Additional Information

- Contacts to discuss issues and/or suggest changes to non-agricultural changes to the ATCM.
 - ▶ Erik White, Manager, Technical Analysis Section
 - (916) 327-7213
 - ewhite@arb.ca.gov
 - ▶ Ron Hand, staff lead
 - (916) 327-6683
 - rhand@arb.ca.gov

Next Steps

- Sept. 29, 2006 - Staff Report, 45-Day Public Review and Comment
- Nov. 16, 2006 - Board Hearing
- Spring 2007 - Office of Administrative Law Review, Effective



Sacramento Webcast Audience Questions and Comments

- E-mail Address:

auditorium@calepa.ca.gov